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Title:

Radio Antennas.

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This invention relates to developments of the antennas disclosed in patent specifications GB 2 215 524B and GB 2 330 695B. In these earlier specifications, the power to be transmitted is divided into two parts and the two half powers are used to separately drive field stimulators one of which generates radio frequency electric field lines E and the other half power generates radio frequency magnetic field lines H. In order to create radio waves by analogy with the Poynting Vector theory of the radio wave the said field lines may be thought of in terms of Quantum Mechanics as the basic virtual photons of the two energies. In order to compose real photons which can fly away with the total energy as an expanding as a powerful spherical radio wavefront at the velocity of light the following criteria must be observed; the two sets of field lines must be:

a) crossed geometrically at right angles with the correct spin for outward motion;

b) applied in the same volume of space called the interaction zone;

c) scaled so that half the power is in each field

d) proportioned so that the ratio E/H equals the impedance of space;

e) synchronised in time with zero phase error;

f) of the same curvature.

When these essential criteria are fulfilled radio waves are formed all around the field stimulators which may be very small in dimensions compared with a wavelength. Dimensions of 2 or 3 percent of the wavelength have been found to be entirely suitable